NEWSLETTER

Vol. 10, Issue No. 10 November 2012

INCOSE LOS ANGELES CHAPTER
LOS ANGELES

GOLD CIRCLE AWARD
2002, 2004-11

SILVER CIRCLE AWARD
2003

2008 President's Award for Most Outstanding Chapter

INCOSE
International Council on Systems Engineering

UPCOMING EVENTS

November Networking Event

When: November 7, 2012
5:30 p.m. to 8:00 p.m.
Where: Bar Celona Restaurant, Pasadena
See page 3 for details

November Speaker Meeting

A Pattern Approach to Process Tailoring and Reuse
Presenter: Dr. Larry Earnest
When: Tuesday, November 13, 2012
5:30 p.m. to 7:45 p.m.
Where: Booz Allen Hamilton, LAX Office
See page 2 for details

Chapter Holiday Party

Saturday, December 8, 2012, 3:00 p.m. to 7:00pm.
Lido's in Manhattan Beach
See page 3 for details

Election of Chapter Officers

December, 2012

2013 Mini-Conference

WHEN: March 16, 2013
WHERE: Loyola Marymount University
Details in work; see the article to the right

See more "save the date" activities on page 7

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Mini-Conference 2013
SATURDAY, MARCH 16, 2013

Another INCOSE-LA Tradition, An Opportunity to Learn, Network, and Share (Without the Travel)

The INCOSE-LA Chapter, in collaboration with co-sponsor Loyola Marymount University, is hosting another one-day conference. As in the past, the Mini-Conference will address important issues in systems engineering. The theme for the 2013 conference is: **Technical Education, Career Development and Collaborative Exploration**.

In addition to structuring the conference to address issues of interest to the systems engineering community, with a portion of the conference using a non-traditional architecture, the leadership team is planning for this conference to be economical ($25 — $50). In keeping with past practices, the cost will include breakfast, breaks, and lunch.

The venue for the Mini-Conference will be Loyola Marymount University, in the Westchester area of western Los Angeles, overlooking Playa Vista and Marina Del Ray. The facilities, with an airy atrium, spacious dining area, and comfortable meeting rooms is the ideal setting for this conference.

Track 1: Using Systems Thinking

Systems Thinking is the process of understanding how things influence one another within a whole. It is a powerful new perspective of understanding reality that emphasizes the relationships among a system's parts, rather than the parts themselves. It is a powerful approach to problem solving. By not reacting to a specific part, outcome, or event, but by understanding the interactions, Systems Thinking can avoid contributing to the development of unintended consequences.

(Continued on page 4)

Want to be a part of the Mini-Conference? Join the team now and help guide and shape this Mini-Conference! Contact:
Harvey Soldan at 951-236-9776 or harvey.soldan@jpl.nasa.gov
OR
Richard Emerson at 818.926.0013 or remerson9@gmail.com

November Speaker Meeting
A Pattern Approach to Process Tailoring and Reuse

Presenter: Dr. Larry Earnest
Senior Technical Advisor
Northrop Grumman Corporation

PARTICULARS

When: Wednesday, November 13, 2012, 5:30 — 7:45 p.m.
Where: Booz Allen Hamilton, LAX Office
Building 5220 — 2nd. Floor, Suite 200
5220 Pacific Concourse Drive
Remote sites will be available for this speaker meeting
Cost: Members-*FREE*; Non-members-*$10.00*

Meeting Agenda:
5:30 - 6:20 p.m. Registration, networking, refreshments
6:20 - 6:30 p.m. Welcome and announcements
6:30 - 7:45 p.m. Presentation followed by questions and answers

Abstract: Many organizations today are implementing process maturity models as a means of managing their intellectual assets for the purpose of maximizing knowledge reuse. Research has shown that implementation of process maturity models result in effective reuse of intellectual assets and leads to better decisions. Reuse, in a system development context, can be broadly defined as the use of knowledge and artifacts from legacy systems to design and manage new systems. The fundamental challenge of reuse is to discover systematic methods for classifying work products in a way that they can be stored and queried for potential reuse on new systems based on some affinity relationship. Research has shown that reuse can be risky without the necessary information about how the asset has been used in the past and what context would be suitable for reuse. Reuse initiatives must be a comprehensive attempt to leverage all historical knowledge about assets in order to produce technical and economic benefits resulting from their reuse. This presentation addresses research findings where patterns were shown to provide these requisite criteria for reuse. The fundamental question is how similar do two (or more) systems need to be in order to consider reusing the processes that created them. Recent research shows that patterns can be mined from process tailoring rationale and are suitable for reuse on new programs with similar domain characteristics.

Biography: Dr. Earnest is a Senior Technical Advisor at Northrop Grumman where he has performed critical systems engineering work on the B-2 Stealth Bomber, F/A-18 Super Hornet, Global Hawk, Homeland Security Programs and other complex systems. Dr. Earnest earned his doctorate in Systems Engineering at Stevens Institute of Technology in Hoboken, New Jersey. He has led Sector-wide Process Improvement Initiatives with the objective of establishing a common set of enterprise processes and tools. Dr. Earnest is a major contributor to corporate process and training literature and is on the Board of Directors for INCOSE-LA where he leads the systems engineering education initiatives

R.S.V.P.: Please R.S.V.P. by Friday, November 9, 2012

ALL PARTICIPANTS: Attendees must R.S.V.P. Please register online at http://www.incose-la.org (this is important so as to help facilitate implementing the meeting). You will be asked to provide your full name, title, company, phone number, and email address. State whether you are a United States citizen, resident alien, or foreign national. Please bring your picture identification (driver's license, passport or green card) to the meeting.

Substantial refreshments will be provided at the host site. Refreshments may be provided at remote sites. Refer to the INCOSE-LA website or contact the point-of-contact for the respective remote site for more information.

Planned Remote Webcast Sites:

Antelope Valley (Edwards Air Force Base, Palmdale): Held on the campus of the Antelope Valley College in the "BE" (Business Education) building, room 207. Open to all; no R.S.V.P. deadline. POC: Mike Wallace, phone: 661-540-0290, email: m.wallace@ngc.com.

Huntington Beach: The Boeing Company, 14900 Bolsa Chica Road, Building 17, Conference Room 109. Please register by Friday, November 9, 2012. Open to U.S. citizens and non-resident aliens. *We regret that foreign nationals will not be able to attend at the Boeing Company site.* Visitors will need to bring identification and check in with Security in the lobby of Building 17 not later than 6:00 p.m. Please bring your picture identification (driver's license, passport and/or green card) to the meeting. Point of contact: Beth O'Donnell, phone: 714-372-2543, email: elizabeth.l.o'donnell@boeing.com. Refreshments will be provided at this site.

Goleta: Control Point Corporation, 110 Castilian, Suite 200, Goleta. Please register by Friday, November 9, 2012. POC: Scott Grant, scott.grant@control-pt.com. 805-882-1884, x108 for directions or more information.

Pasadena, JPL – Please register online by Thursday, November 8, 2012. Contact Michela Muñoz Fernández at Michela.Munoz.Fernandez@jpl.nasa.gov for specific location and directions. JPL, 4800 Oak Grove Dr, Pasadena CA. Open to all. Visitors must register by RSVP deadline. Site coordinator: Chelsea Dutenhoffer, chelsea.dutenhoffer@jpl.nasa.gov.

Directions to the host site at Booz Allen Hamilton:
From the San Diego (405) Freeway traveling south:
1. Take exit 46 toward Century Blvd. West/LAX.
2. Turn left (south) on south La Cienega Boulevard.
3. Turn right onto Pacific Concourse Drive.
4. Follow the road until you reach the second stop sign (immediately past court house parking garage on the right) and turn right. At gate on the far right, press the green button to receive a parking ticket (admin staff will validate parking).

The Systems Engineering Body of Knowledge — An Update

Information provided by Dr. Larry Earnest

The *Guide to the Systems Engineering Body of Knowledge (SEBoK)* version 1.0 has been released and can be downloaded at http://www.sebokwiki.org.

Version 1.0 adds to the rapidly maturing discipline of systems engineering and is intended for broad, world-wide use. It consists of seven parts, broken into 26 knowledge areas, with 112 topics. There are five use-cases, seven case studies, and six vignettes to illustrate the contents. The glossary has 363 entries, and there are 224 primary references plus hundreds more additional references.

Work on the SEBoK began in the summer of 2009 in recognition that the systems engineering discipline could benefit by having a vetted and authoritative guide to what is included in the discipline. The SEBok contains ideas on how the systems engineering discipline is structured to facilitate understanding and provides references to some of the most important literature.

The SEBok is published in a wiki-based format in order to facilitate future updates. The SEBoK team believes this format will serve the systems engineering community better than if were produced as a traditional .pdf or word document. The Wiki format allows members of the systems engineering community to provide comments and offer suggestions for future inclusion to the SEBok. Users are asked to comment about what they like and dislike, what is missing and what should be removed. New articles will be added and existing articles updated regularly.

The SEBoK was created in an open collaborative process. Specifically, each version had public review and each review comment was adjudicated. All contributions by authors, reviewers, participants, partners, and sponsors are noted with deep gratitude in the Acknowledgements section.

The earliest value of the SEBoK has simply been the greater sense of community that has developed among the authors, which include many fellows of professional societies and other leaders in the field. For example, the relationship between Systems Science and systems engineering is now more clearly understand than in the past.

The greater value of the SEBoK, of course, will come with the anticipated use by the community now that version 1.0 has been released. If the SEBoK team is successful, the SEBoK will be used by systems engineers around the world as they undertake such activities as creating systems architectures, developing career paths for systems engineers, and deciding new curricula for systems engineering university programs.

The SEBoK team welcomes your contributions to the SEBoK. Please post your suggestions using the DISQUS feature on each article or send us an email at bkcase@stevens.edu.

Dr. Earnest is the Director of Systems Engineering Education for the Chapter and a Fellow Engineer at the Northrop Grumman Corporation. He also served as a member of the SEBoK team.

Networking Event in November

By Scott Birtalan

Join the Los Angeles Chapter for an evening of socializing and networking with members of the Chapter and of the Board of Directors. Enjoy the company of other systems engineering professionals.

This next Professional Networking Event will be held on **Wednesday, November 7, 2012 from 5:30 p.m. to 8:00 p.m.** at Bar Celona Restaurant at 46 East Colorado Boulevard in Old Town Pasadena.

The purpose of this gathering is to welcome any new members and to provide an opportunity for Chapter members to gather and network in an informal setting. This is a great way to meet other systems engineering professionals and members of the INCOSE-LA Chapter, and your participation is welcomed. Appetizers will be provided, compliments of INCOSE-LA. There will be a "No Host" bar. Please come and join us.

R.S.V.P.: Please R.S.V.P. by November 5, 2012, at the Chapter's website: www.incose-la.org. Look for this event in the "Upcoming Events" section on the home page, and click on the link for Registration.

EVENT CONTACT: Scott Birtalan, phone 424-217-0743, email scott.birtalan@ngc.com

Rivalry, jealousy, and vindictiveness from other scientists and philosophers were Galileo's lot, and they are not infrequently the lot of unorthodox minds in modern times. Anyone who believes that inquisitions went out with the triumph of secularism over religion has not paid attention to the records of foundations, federal research agencies, professional societies, and academic institutions and departments.

Robert Nisbet, *Prejudices*, Harvard Press, 1983

2013 Mini-Conference
March 16, 2013
Look for updates on the details and presentations and for opportunities to participate in future editions of the Newsletter and on the INCOSE-LA website!

Systems Thinking adds to the systems engineering practice and is not limited to systems engineering. It supports development in areas such as business, government and law.

The intent of Track 1 is to show how systems engineering can be performed more efficiently and effectively using systems thinking in a wide variety of applications. To this end we invite presentations on practical applications of systems thinking. Contributions may include traditional (e.g. aerospace) and non-traditional (e.g. biomedical, energy, transportation) areas of systems engineering and even non-engineering applications.

Presentations will be limited to 20-25 minutes with 5-10 minutes of questions and answers, for a total of 30 minutes.

Please send a one-page-or-less summary of your presentation to the Technical Program Chair, Richard Emerson (Email: remerson9@gmail.com) by December 31, 2012.

You will be notified of acceptance by January 15, 2013. Your final presentation will be due by February 15, 2013. When you are notified of acceptance, the presentation format will be provided.

Track 2: Recruiting, Interviewing and Transitioning

This track will be divided into four sessions each addressing an aspect of the search for a job and career advancement.

Session 1 will be a talk by one or more human resources specialists in companies that hire systems engineers for diverse positions. It may be followed by a workshop or question and answer session to help the participants apply what was discussed. If practical it may include an opportunity for the participants to make changes to their resumes in real time, in preparation for the speed interviewing session.

Session 2 will present each of the company recruiters. These representatives will be intimately familiar with the opportunities at their company. Each will give a short description of the company and products, its systems engineering needs and potential opportunities for employment.

Session 3 will operate like a speed dating session, with the different employers sitting at desks around the room and the participants going to each one. During three minutes, the participants present themselves to the employer. Every 3 to 5 minutes the participants will move to the next employer in line.

Session 4 will present systems engineers, either individually or as a panel, who have moved their career from employee to either independent consultant or freelance systems engineer.

In order to properly plan this track to accommodate all participants, please indicate your intention to participate in this track when signing up for the Mini-Conference.

Track 3 "SECamp"

This track is an opportunity for our members and friends to share systems engineering topics such as best practices, research, or application methods within the systems engineering community.

The un-conference format is based on open, community-based process with open calls and open voting by attendees to select a topic and a style, be it a presentation, panel discussion or tutorial. This format lends itself to an opportunity for systems engineers from non-aerospace industries (transportation, energy management, biomedical systems, and social systems) to share their perspectives and challenges in applying the process.

We encourage anyone with an idea to submit it. We encourage first-time speakers with a desire to share their experiences in systems engineering, experienced professionals with lessons they have learned, and researchers to bring their latest findings. Bring your newest ideas and thoughts and let the community discuss them. Even if you are looking for a topic to be presented — something that you need to help you in your work as a systems engineer — propose it and ask for a presenter.

SECamp is a participant-centric track that focuses on best practices in every aspect of systems engineering. If you have a success story using a method, a technique, approach, or a practice that consistently produced good results, we would like to hear from you. The purpose is to help all levels of systems engineering from practicing engineers through management to learn how to adopt methods, technologies, and practices to increase productivity and quality of systems. While a bit touchy, cautionary tales of systems engineering projects gone awry may be as helpful as successes.

Presentations will be limited to twenty minutes with up to ten minutes of questions and answers, for a total of thirty minutes. Panels or tutorials may take up to an hour. We invite you to submit a one-page or less summary of your abstract, question, or session proposal to the Technical Program Chair, Richard Emerson (email: remerson9@gmail.com) by January 20, 2013. The SECamp voting, by registered attendees and INCOSE-LA members, will occur between February 1 and February 10, 2013. The successful SECamp program selections will be determined and announced by February 20, 2013. The presentation format will be provided with the selection notification. Selected presentations and tutorials are due to INCOSE-LA by March 1, 2013.

Preferably, all communications for any track or regarding the Mini-Conference will be through email. If this is not possible, please advise the organizers immediately at the email address below so that we can make arrangements to accommodate your needs in a timely manner.

If you have further questions, address them to 2013MC@incose-la.org or to remerson9@gmail.com.

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Solving the Systems Engineering Planning Puzzle
By Dr. Larry Earnest

In working with engineers from every design discipline, including systems engineers, program managers and subcontractors, there seems to be some apprehension and uncertainty on how best to plan and implement the systems engineering process on a new program. It would seem that planning for how the systems engineering process should be tailored and implemented to meet program needs is a kind of complex puzzle, made from scattered puzzle pieces.

What appears "puzzling" about planning the systems engineering process is the range of systems engineering Methods, Processes and Tools (MPT's) available to the technical community. I see these methodologies as highly idealized and seldom fully implemented as intended.

For more reading on this subject of MPT's I would like to refer you to the research done by the Systems Engineering Research Center titled "Evaluation of Systems Engineering Methods, Processes and Tools on Department of Defense and Intelligence Community Programs.

http://www.sercuarc.org/uploads/files/A0013_RT_9_Final_Technical_Report.pdf

The report provides a taxonomy of common MPT's and identifies several gaps in the classical systems engineering approaches. The three gaps I found interesting are as follows:

1. Many organizations face the same problems (e.g. dynamic requirements) which are not addressed by current MPT,s. New ideas in systems engineering are needed to address them.
2. MPT's cannot be replacements for thinking and communicating because those are both key to good engineering and design. The expectation of tools to provide answers leads to less thinking and validation that can cause issues downstream.
3. Having the right people with the right training is essential.

We are now told that none of the five INCOSE-endorsed systems engineering methodologies adequately address the gaps associated with emergence, complex adaptive systems, etc. It's no wonder that we approach the initial steps of systems engineering planning with some doubt.

I suggest we get back to basics. Regardless of the system to be developed, we are concerned only with one reality: striving to make the best technical decisions we can that result in the best possible product that satisfies stakeholder needs within cost and schedule constraints. This is the essence of systems engineering.

Most chief engineers I've worked with are more concerned about making the right technical decisions and less about MPT's. Let's talk about the architectural work products. There are several MPT's available to systems engineers responsible for architectural work products. Regardless of the MPT's used the objective is to produce a complete architecture with all the users, nodes, data, data standards, data rates, interfaces, interface standards, functional descriptions, functional behavior, rules, conditions and constraints.

Each of the methodologies used in system development is an art form. And the real art is in bringing the correct blend of methodologies and human skills together at the right time. No single systems engineering methodology will ever solve everyone's system problem. Remember, in practice it is not important which methodology you use or if you use it exactly as prescribed. In practice the methodologies are a toolbox of best practices that you may use as needed. All discussions as to which one is the best, what are the differences, etc, are theoretical ones.

I leave you with my favorite Lean Enabler. Have your most senior systems engineers get your new program started off on the right foot. Don't get lost or discouraged in the systems engineering complexity puzzle. Let's "assemble" our thoughts and solve it together.

FINANCIAL PLANNING SEMINAR
The Journey to Financial Independence
By Shirley Tseng

On Saturday morning October 6 2012, twenty five local engineers (INCOSE-LA and IEEE) gathered at Booz Allen Hamilton to learn about the journey to financial independence with presentations by Aarone Tirpak of Wells Fargo Financial Advisors. Mark Stelling, INCOSE-LA member and Raytheon retiree, gave a few introductory remarks highlighting the need for all to be proactive with their financial planning plus some of the "why" and "how" to select financial advisors.

Mr. Tirpak, started with a review of the services offered by Wells Fargo and introduced the speakers: Joel Miller (financial services), Andy Nicholls (insurance services), and Shannon Switzer (estate planning).

The audience was engaged with many questions for the speakers and enjoyed learning how to select a financial advisor, how to hold financial advisor accountable, when one should rebalance his or her portfolio, the use of insured equity, and elements of estate planning such as wills, living trusts, pour-over wills, advanced health directives, durable power of attorney, estate tax exception, 2012 election, and pending investment and tax changes.

The audience was a mixture of retirees and mid-career engineers interested in learning more about what are the issues in financial planning and in assessing their road to financial independence. It should start with first day of the first job when the 401k withholding elections are made, with steps made with each housing decisions, saving and investment decisions, and with tax and estate trust strategies until well into retirement.

A few takeaways:

- everybody should have a notarized Advanced Health Care Directive and a durable power of attorney in effect – the sooner the better
- if you have a house or have more than $100,000 in assets, you should have a trust
- you need to have at least a million dollars in non-real for retirement!

Considering the highly positive response to this event, the Chapter's Program Director is working on a repeat session in Orange County early next year. Details will be presented in future *Newsletters* and Reflector notices plus on the Chapter's webpage.

SAVE THE DATE

Upcoming Software Process Improvement Network Meeting
"Use of Architecture Centric Engineering for Improving a Software System"
November 2, 2012
Presented by Felix H. Bachmann, a Senior Member of the Technical Staff at the Software Engineering Institute (SEI)
Go to the SPIN website for details

SPIN, CERT Resilience Management Model, by Julia Allen, SEI
Date : December 14, 2012, 9:00 a.m. – 11:30 a.m.
Location: Northrop Grumman E2 Presentation Center, Redondo Beach, California
Go to the SPIN website for details

San Diego Engineering Geek Night on Board the USS Midway Museum

Date: Sunday, December 2, 2012, 6:30 PM – 10 PM
Hosted in part by the San Diego Chapter of INCOSE
for more details go to:
http://www.sdincose.org/wp-content/uploads/2012/08/Engineering-Night-Flyer-07312012.pdf

INCOSE International Workshop

When: January 26 — 29, 2013
Jacksonville, Florida
Go to the INCOSE website for details

(October Speaker Meeting, continued from page 2)

5. After passing the gate, turn left and park in the visitor parking lot. Walk past the water fountain, across the rotunda to building 5220. Meeting will be on the second floor, Suite 200.

From the San Diego (405) Freeway traveling north:

1. Take the El Segundo Boulevard exit, exit 44, toward Hawthorne Blvd.
2. Turn left onto west El Segundo Boulevard.
3. Turn right (north) on south La Cienega Boulevard.
4. Proceed on La Cienega until the third stoplight.
5. Turn left onto Pacific Concourse Drive.
6. Follow the road until you reach the second stop sign (immediately past court house parking garage on the right) and turn right. At gate on the far right, press the green button to receive a parking ticket (admin staff will validate parking).

After passing the gate, turn left and park in the visitor parking lot. Walk past the water fountain, across the rotunda to Building 5220. Meeting will be on the second floor, Suite 200.

The Board of Directors wishes to welcome the following new members in the Los Angeles Chapter of INCOSE:

Note: The information listed below is from the member directory and is based upon your initial membership application. If the information is not correct or complete, then please access the member directory (at www.incose.org) to update your information.

Name	Title	Company
Bran Carpenter	Captain	United States Air Force
Daniela Crum	Senior Engineer	Northrop Grumman
Matt P Easley	Senior Engineer	The Boeing Company
Chris Ikei	Systems Engineer	Edwards Lifesciences
Allen T Kummer	System Engineer	The Jet Propulsion Laboratory
Jim E LeDuc	Senior Principle Investigator/Scientist	Sparta Inc.
Jack T Parker	Project Manager	Aerospace Defense
Tom V Traczyk IV	Manager, Systems Engineering	Raytheon Space & Airborne Systems

Return Address:

PO Box 10969
Westminster, CA 92685-0969

Forwarding Address Requested

The International Council on Systems Engineering (INCOSE) is a not-for profit membership organization founded to develop and disseminate the interdisciplinary principles and practices that enable the realization of successful systems. INCOSE's mission is to share, promote, and advance the best of systems engineering from across the globe for the benefit of humanity and the planet.
The Los Angeles Chapter meets several times per year for speaker meetings, and, in addition, sponsors tutorials, Mini-Conferences and other activities of interest to those in the systems engineering field or related fields.

2012 Board of Directors

Elected Officers			Elected At-large Directors		
President	John Silvas	silvas_john@bah.com	Membership	Paul Cudney	paul.cudney@incose.org
Vice-President	Terry Rector	terry.rector@incose.org	Programs (acting)	Shirley Tseng	shirleytseng@earthlink.net
Past President	Beth O'Donnell	elizabeth.odonnell@incose.org	Systems Engineering Education	Larry Earnest	Larry.earnest@incose.org
Secretary	Alan Kirschbaum	alan.kirschbaum@incose.org	Ways and Means	Michael Maar	michael.maar@incose.org
Treasurer	Harvey Soldan	harvey.soldan@jpl.nasa.gov	Communications (acting)	Jorg Largent	Jorg.largent@incose.org
Appointed Positions					
Newsletter Co-editor	Jorg Largent	jorg.largent@incose.org	Newsletter Co-editor	DeAnna Regalbuto	deanna.regalbuto@verizon.net
Technical Society Liaison	Shirley Tseng	shirleytseng@earthlink.net	Reflector Manager	Susan Ruth	susan.c.ruth@aero.org
Chapter Recognition Manager			Industrial Relations Manager	Jose Garcia Jr.	jose.s.garcia-jr@boeing.com
Professional Networking Chair	Scott Birtalan	scott.birtalan@ngc.com	Website Technical Manager	OPEN	
2013 Mini-Conference Chair	Harvey Soldan	harvey.soldan@jpl.nasa.gov	Lead Site Coordinator	OPEN	
2013 Mini-Conference Technical Chair	Richard Emerson	remerson9@gmail.com	Rep to the SF Valley Engineer's Council	Stephen Guine	Stephen.Guine@ngc.com
Volunteer Coordinator	Karen Miller	karmill888@aol.com	New Member Ambassador	Collette Kurtz	collette.kurtz@incose.org